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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

ENGLAND, DAVID E

ART UNIT PAPER NUMBER

2143

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/880,217	Applicant(s) TANG ET AL	
	Examiner David E. England	Art Unit 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
6) <input type="checkbox"/> Other: _____. |
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DETAILED ACTION

1. Claims 1 – 34 are presented for examination.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “wherein each node in said plurality of web server nodes can perform as said front end node depending on which web server node is selected in establishing said TCP/IP communication session” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 – 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Claims 1, 13 and 25 recite the newly added limitation of, “wherein each node in said plurality of web server nodes can perform as said front end node depending on which web server node is selected in establishing said TCP/IP communication session,” in which there is no disclosure in the specification of such an event. Applicant is asked to amend or provide an explanation citing sections in the main body of the specification and drawing that would suggest such a limitation.

6. All other claims are rejected for their dependency on claims 1, 13 and 25.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 8 – 10, 13, 20, 22 – 25, 32 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Anerousis et al. U.S. Patent No. 6760775 (hereinafter Anerousis).

9. Referencing claim 13, as closely interpreted by the Examiner, Anerousis teaches a communication network, a method of TCP state migration comprising the steps of:

10. a) establishing a TCP/IP communication session between a client computer and a first bottom TCP (BTCP) module located below a first TCP module in a first operating system at a front-end node, said front end node part of a plurality of web server nodes that form a web server cluster containing information, said TCP/IP communication session established for the transfer of data contained within said information, (e.g. col. 7, lines 21 – 33 & 49 – 67, “*tunneling, SLR, cluster*”);

11. wherein each node in said plurality of web server nodes can perform as said front end node depending on which web server node is selected in establishing said TCP/IP communication session, (e.g. col. 9, line 40 – col. 10, line 19, “*The network-level SLR cluster*”);

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410 selects a system-specific SLR cluster 510, 610 or 710 as the destination for the network service request”);

12. b) receiving a HTTP request associated with said TCP/IP communication session at said first BTCP module, (e.g. col. 7, lines 21 – 33 & 49 – 67, “*tunneling, SLR, cluster*”);

13. c) examining content of said HTTP request, (e.g. col. 7, lines 21 – 33 & 49 – 67);

14. d) determining which of said plurality of web server nodes, a selected back-end node, can best process said HTTP request based on said content, (e.g. col. 7, lines 21 – 33 & 49 – 67);

15. e) handing off said TCP/IP communication session from said first BTCP module to a selected back-end node over a persistent control channel, (e.g. col. 8, lines 7 – 30);

16. f) migrating a first TCP state of said first BTCP module to said selected back-end node, and sending a second TCP state of said selected back-end node to said first BTCP module over said control channel, (e.g. col. 8, lines 17 – 45);

17. g) forwarding incoming data packets received at said first BTCP module to said selected back-end node, (e.g. col. 8, lines 17 – 45); and

18. h) sending outgoing response packets from said selected back-end node directly to said client, (e.g. col. 7, line 49 – col. 8, line 16); and

19. i) terminating said TCP/IP communication session at said front-end node and said selected back-end node when said TCP/IP communication session is closed, (e.g. col. 8, line 46 – col. 9, line 39).

20. Referencing claim 22, as closely interpreted by the Examiner, Anerousis teaches each node said web cluster can perform as said front-end node and as said selected back-end node,

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and said control channel allows for communication between all nodes for TCP state migration, (e.g. col. 14, lines 20 – 40 & col. 14, line 61 – col. 15, line 10, “bypass”).

21. Referencing claim 23, as closely interpreted by the Examiner, Anerousis teaches said plurality of server computers is coupled together over a local area network said communication network, (e.g. col. 7, line 49 – col. 8, line 16 & col. 8, line 46 – col. 9, line 10).

22. Referencing claim 24, as closely interpreted by the Examiner, Anerousis teaches said information is partitioned/partially replicated throughout each of said plurality of server computers, (e.g. col. 7, line 49 – col. 8, line 16 & col. 8, line 46 – col. 9, line 10).

23. Claims 1, 8 – 10, 20, 25, 32 and 33 are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 2, 14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anerousis (6760775) in view of Munger et al. (6502135) (hereinafter Munger).

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26. As per claim 14, as closely interpreted by the Examiner, Anerousis teaches at said first BTCP module comprises the steps of:

27. a1) receiving a TCP/IP SYN packet from said client, (e.g. col. 14, line 42 – col. 15, line 18);

28. a4) receiving a TCP/IP ACK packet from said client at said first BTCP module, (e.g. col. 20, lines 41 – 57);

29. a5) receiving said HTTP request associated with said TCP/IP communication session from said client computer, (e.g. col. 8, lines 7 – 45), but does not specifically teach a2) selecting a first initial sequence number (ISN) for said first BTCP module that is associated with said TCP/IP communication session, said first ISN associated with a first TCP state of said first BTCP module;

30. a3) sending a TCP/IP SYN/ACK packet to said client;

31. a6) storing said HTTP request and connection parameters associated with said TCP/IP SYN and TCP/IP ACK packets at said front-end node.

32. Munger teaches a2) selecting a first initial sequence number (ISN) for said first BTCP module that is associated with said TCP/IP communication session, said first ISN associated with a first TCP state of said first BTCP module, (e.g. col. 9, line 36 – col. 10, line 21);

33. a3) sending a TCP/IP SYN/ACK packet to said client, (e.g. col. 16, lines 16 – 55);

34. a6) storing said HTTP request and connection parameters associated with said TCP/IP SYN and TCP/IP ACK packets at said front-end node, (e.g. col. 16, line 56 – col. 17, line 29, “...TARP router 911 (FIG. 9) with maintain their respective transmit tables...”). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine

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Munger with Anerousis because maintaining stored information about the communication path would be more efficient than having to spend excessive time reestablishing communications between nodes that are already in communication with each other. If this were to occur, it would take up more time and bandwidth than needed for a communication session.

35. Claims 2 and 26 are rejected for similar reasons as stated above.

36. Claims 3, 4, 5, 15 – 17 and 27 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anerousis (6760775) in view of Munger (6502135) in further view of Albert et al. (6775692) (hereinafter Albert).

37. As per claim 4, as closely interpreted by the Examiner, Anerousis and Munger do not specifically teach said step c) at said second BTCP module comprises the further steps of:

38. c1) reconstructing said TCP/IP SYN packet using said connection parameters including changing a first destination address of said SYN packet to a second IP address of said selected back-end node;

39. c2) sending said TCP/IP SYN packet to said second TCP module;

40. c3) receiving a second TCP/IP SYN/ACK packet from said second TCP module;

41. c4) parsing a second initial TCP state from said second TCP/IP SYN/ACK packet, including a second ISN for said second TCP module, said second initial TCP state necessary for understanding said second TCP state for said second TCP module in said TCP/IP communication session;

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42. c5) reconstructing said TCP/IP ACK packet using said connection parameters including changing a second destination IP address of said TCP/IP ACK packet to said second IP address;
43. c6) updating said TCP/IP ACK packet to reflect said second TCP state of said selected back-end node said TCP/IP communication session;
44. c7) sending said TCP/IP ACK packet that is updated to said second TCP module; and
45. c8) sending a handoff acknowledgment message to said first BTCP module.
46. Albert teaches said step c) at said second BTCP module comprises the further steps of:
47. c1) reconstructing said TCP/IP SYN packet using said connection parameters including changing a first destination address of said SYN packet to a second IP address of said selected back-end node, (e.g., col. 13, lines 30 – 65);
48. c2) sending said TCP/IP SYN packet to said second TCP module, (e.g., col. 13, lines 30 – 65);
49. c3) receiving a second TCP/IP SYN/ACK packet from said second TCP module, (e.g., col. 13, lines 30 – 65);
50. c4) parsing a second initial TCP state from said second TCP/IP SYN/ACK packet, including a second ISN for said second TCP module, said second initial TCP state necessary for understanding said second TCP state for said second TCP module in said TCP/IP communication session, (e.g., col. 25, lines 30 – 52);
51. c5) reconstructing said TCP/IP ACK packet using said connection parameters including changing a second destination IP address of said TCP/IP ACK packet to said second IP address, (e.g., col. 13, lines 30 – 65);

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52. c6) updating said TCP/IP ACK packet to reflect said second TCP state of said selected back-end node said TCP/IP communication session, (e.g., col. 13, lines 30 – 65);

53. c7) sending said TCP/IP ACK packet that is updated to said second TCP module, (e.g., col. 13, lines 30 – 65); and

54. c8) sending a handoff acknowledgment message to said first BTCP module, (e.g., col. 13, lines 30 – 65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Albert with the combine system of Anerousis and Munger because it would be more efficient for a system to transfer request information to a server that can accommodate a specific request while updating the sending information so future requests and communications can be forwarded to that specific server.

55. As per claim 5, as closely interpreted by the Examiner, Anerousis teaches wherein said step c) further comprises the steps of:

56. c9) migrating said first initial TCP state to said second BTCP module over said control channel by including said first initial TCP state in said handoff request message, said first initial state including said first ISN, such that said second BTCP module can calculate said first TCP state for said front-end node in said TCP/IP communication session, (e.g. col. 9, line 40 – col. 10, line 19); but does not specifically teach c10) sending said second initial TCP state of said selected back-end node said first BTCP module by including said second initial TCP state in said handoff acknowledgment message, said second initial TCP state including said second ISN, such that said first BTCP module can calculate said second TCP state for said second TCP module in said TCP/IP communication session. Albert teaches c10) sending said second initial TCP state of

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said selected back-end node said first BTCP module by including said second initial TCP state in said handoff acknowledgment message, said second initial TCP state including said second ISN, such that said first BTCP module can calculate said second TCP state for said second TCP module in said TCP/IP communication session, (e.g., col. 13, lines 30 – 65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Albert with the combine system of Anerousis and Munger because of similar reasons stated above.

57. As per claim 15, as closely interpreted by the Examiner, Anerousis teaches at said first BTCP module comprises the steps of:

58. e1) sending a handoff request message second BTCP module located at said selected back-end node over said control channel, if said selected back-end node is not said front-end node, said second BTCP module located below a second TCP module in a second operating system at said selected back-end node, (e.g. col. 8, lines 17 – 61 & col. 9, line 40 – col. 10, line 18);

59. e2) including said connection parameters in said handoff request message, (e.g. col. 10, line 19 – col. 11, line 6), but does not specifically teach e3) including a first initial TCP state information for said first BTCP module, including said first ISN in said handoff request message; and

60. e4) receiving a handoff acknowledgment message from said second BTCP module if said TCP/IP communication session is successfully handed off.

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61. Albert teaches e3) including a first initial TCP state information for said first BTCP module, including said first ISN in said handoff request message, (e.g. col. 25, lines 30 – 52 & col. 26, lines 15 – 65); and

62. e4) receiving a handoff acknowledgment message from said second BTCP module if said TCP/IP communication session is successfully handed off, (e.g. col. 15, lines 14 – 60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Albert with the combine system of Anerousis and Munger because transferring parameter information to from a front-end node to a back-end node that has the ability to respond to a user's request would prevent the system from requesting information from the back-end node to the user which would use up excess bandwidth and time from the system having to "re-requesting" information that is already available to the system.

63. Claims 3, 16, 17 and 27 – 29 are rejected for similar reasons as stated above.

64. Claims 6, 7, 11, 18, 19, 21, 30, 31, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anerousis (6760775) in view of Albert (6775692).

65. As per claim 11, as closely interpreted by the Examiner, Anerousis does not specifically teach sending a reconstructed TCP/IP SYN packet from said first BTCP module to said first TCP module;

66. receiving a TCP/IP SYN/ACK packet at said first BTCP module from said first TCP module;

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67. parsing a third initial TCP state from said second TCP/IP SYN/ACK packet, said third initial TCP state associated with a third TCP state for said first TCP module in said TCP/IP communication session;
68. updating a reconstructed TCP/IP ACK packet to reflect said third TCP state;
69. sending said updated TCP/IP ACK packet to said first TCP module;
70. updating incoming data packets from said client at said first BTCP module to reflect said third TCP state, including TCP sequences numbers and TCP checksum; and
71. updating outgoing response packets from said TCP module to reflect said first TCP state, including TCP sequence numbers and TCP checksum.
72. Albert teaches sending a reconstructed TCP/IP SYN packet from said first BTCP module to said first TCP module, (e.g., col. 13, lines 30 – 65);
73. receiving a TCP/IP SYN/ACK packet at said first BTCP module from said first TCP module, (e.g., col. 13, lines 30 – 65);
74. parsing a third initial TCP state from said second TCP/IP SYN/ACK packet, said third initial TCP state associated with a third TCP state for said first TCP module in said TCP/IP communication session, (e.g., col. 13, lines 30 – 65);
75. updating a reconstructed TCP/IP ACK packet to reflect said third TCP state, (e.g., col. 13, lines 30 – 65);
76. sending said updated TCP/IP ACK packet to said first TCP module, (e.g., col. 13, lines 30 – 65);

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77. updating incoming data packets from said client at said first BTCP module to reflect said third TCP state, including TCP sequences numbers and TCP checksum, (e.g., col. 13, lines 30 – 65); and

78. updating outgoing response packets from said TCP module to reflect said first TCP state, including TCP sequence numbers and TCP checksum, (e.g., col. 13, lines 30 – 65). It would be obvious to one of ordinary skill in the art at to combine Albert with Anerousis because updating information in a packet to reflect the current communication nodes would be obvious in order for newly established communication to be communicated properly.

79. As per claim 18, as closely interpreted by the Examiner, Anerousis teaches said first BTCP module:

80. j) receiving incoming data packets from said client, (e.g. col. 20, lines 41 – 57);

81. m) forwarding said data packets to said selected back-end server computer, (e.g. col. 20, lines 41 – 57), but does not specifically teach k) changing destination addresses said incoming data packets to a second address of said selected back-end node;

82. l) updating TCP sequence numbers and TCP checksum in said data packets to reflect said second TCP state of said selected back-end node.

83. Albert teaches k) changing destination addresses said incoming data packets to a second address of said selected back-end node, (e.g. col. 7, line 61 – col.8, line 16);

84. l) updating TCP sequence numbers and TCP checksum in said data packets to reflect said second TCP state of said selected back-end node, (e.g. col. 31, lines 31 – 65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Albert

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with Anerousis because changing the destination address to the selected back-end node would ensure that the information requested by the user would be transmitted to a node that can handle the request.

85. As per claim 19, as closely interpreted by the Examiner, Anerousis teaches j) intercepting outgoing response packets from said selected back-end node at a second bottom TCP module located below a second module in a second operating system at said selected back-end node, (e.g. col. 20, lines 41 – 57);

86. m) sending said response packets to said client, (e.g. col. 20, lines 41 – 57), but does not specifically teach k) changing source addresses of said response packets first IP address of said first front-end node;

87. l) updating sequence numbers and TCP checksum said response packets to reflect said first TCP state.

88. Albert teaches k) changing source addresses of said response packets first IP address of said first front-end node, (e.g. col. 2, lines 25 – 65 & col. 7, line 61 – col.8, line 16);

89. l) updating sequence numbers and TCP checksum said response packets to reflect said first TCP state, (e.g. col. 7, line 61 – col.8, line 16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Albert with Anerousis because of similar reasons stated above, but it would be so the user can receive their requested data.

90. Claims 6, 7, 21, 30, 31 and 34 are rejected for similar reasons as stated above.

91. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anerousis (6760775) in view of Lee et al. (6601101) (hereinafter Lee).

92. As per claim 12, as closely interpreted by the Examiner, Anerousis teaches dynamically loadable modules, including said first BTCP module, in operating system at both said front-end node and said selected back-end node, including said first operating system, (e.g. col. 14, line 42 – col. 15, line 18), but does not specifically teach implementing a TCP handoff protocol that works within kernel levels of an existing TCP/IP protocol. Lee teaches implementing a TCP handoff protocol that works within kernel levels of an existing TCP/IP protocol, (e.g., col. 12, lines 38 – 55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Lee with Anerousis because it would allow the information to be processed in lower levels of the protocol stack as opposed to traveling up to the last layer and back down to process information.

Response to Arguments

93. Applicant's arguments filed 02/07/2005 have been fully considered but they are not persuasive.

94. In the Remarks, Applicant argues in substance that Anerousis does not teach nor suggest the present method of TCP state migration in which each node in the plurality of web server nodes can act as the front end node as claimed in independent claims 1, 13 and 25.

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95. As to part 1, Examiner would like to draw the Applicant's attention to the quoted section of the prior art in which Anerousis teaches that a node designates which, of the group of gateway node will be best suited for handling the load balancing operation of the prior art, be the front end node to load balance for another group of nodes. Therefore, as broadly interpreted by the Examiner, Anerousis teaches the newly added limitation of the present invention.

96. In the Remarks, Applicant argues in substance that the other prior art of Albert and Munger do not make up for the deficiencies of Anerousis and therefore the claims are respectfully allowable over the prior art.

97. As to part 2, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

98. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

99. a. Brendel U.S. Patent No. 6587438 discloses World-wide-web server that finds optimal path by sending multiple syn+ack packets to a single client.

100. b. Liao U.S. Patent No. 6185208 discloses Method and apparatus for fragmenting messages for a wireless network using group sharing of reference numbers.

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101. c. Gelman et al. U.S. Patent No. 6415329 discloses Method and apparatus for improving efficiency of TCP/IP protocol over high delay-bandwidth network.
102. d. Watson et al. U.S. Patent No. 6779033 discloses System and method for transacting a validated application session in a networked computing environment.
103. e. Brabson et al. U.S. Patent No. 6832260 discloses Methods, systems and computer program products for kernel based transaction processing.
104. f. Cisco discloses Release Notes for Catalyst 4840G SLB Switch for Cisco IOS Release 12.0(10) W5(18).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 571-272-3912.

The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David E. England
Examiner
Art Unit 2143

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